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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,340	03/29/2001	Yoriaki Matsuzaki	018793-243	8537

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,340

Applicant(s)

MATSUZAKI ET AL.

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,6 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/11/03 has been entered.

2. All outstanding rejections except for those described below are overcome by applicants' amendment and declaration filed 12/11/03.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 2, 6, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 6, and 11 each recite that the ink comprises "pyridine azo" of the recited formula (2). The scope of the claims is confusing in light of the disclosure in the present specification, for instance, on page 4, which discloses that the present invention utilizes

“pyridone azo” of the formula (2) which is different then the dye name and formula recited in present claims 1, 6, and 11. Have the applicants inadvertently written the wrong dye name and formula? Based on the specification as well as the original claims, it is believed that this is the case. If so, it is advised that applicants make the appropriate corrections to the claims. It is noted that if applicants intended to recite “pyridine azo” as well as the presently claimed formula, the claims would be rejected under 35 USC 112 first paragraph since there is no support for such recitation in the specification as originally filed and under 35 USC 112 second paragraph since presently claimed formula (2) does not appear to represent a “pyridine” azo.

However, when considering the claims with respect to prior art rejections, it is noted that examiner assumed that applicants did in fact intend to claim “pyridone azo” of the formula set forth on page 4 of the present specification.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsumi et al. (U.S. 6,031,019) or Komatsu et al. (U.S. 6,379,443) either of which in view of Ohyama et al. (U.S. 5,359,075).

Tsutsumi et al. disclose water-based ink jet ink wherein the ink comprises polymer particles colored with oil-soluble dye. There is also disclosed a method for making the colored particles wherein the polymer, dye, and solvent are added to water and then emulsified. The colored polymer is dispersed in the water medium (col.1, lines 14-24, col.3, line 65-col.4, line 17, col.4, lines 21 and 49-51, col.6, lines 54-56, col.8, lines 11-12, col.11, lines 56-60, and col.12, lines 61-67).

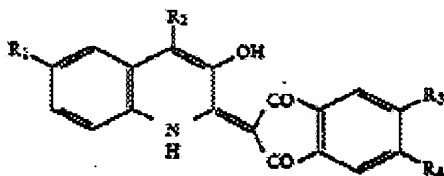
Alternatively, Komatsu et al. disclose water-based ink jet ink comprising colored polymer comprising polymer and oil-soluble dye in the form of an emulsion wherein the colored

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polymer is dispersed in the water medium (col.7, lines 43-61, col.8, lines 32-35, and example A5).

The difference between Tsutsumi et al. or Komatsu et al. and the present claimed invention is the requirement in the claims of specific type of dye.

Ohyama et al. disclose quinophthalone compound of the formula:



where R₁ is hydrogen or C₁-C₈ alkyl group, R₂ is hydrogen, R₃ dialkylaminocarbonyl such as dipentylaminocarbonyl, and R₄ is hydrogen (col.2, lines 1-27 and col.2, line 54-col.3, line 36).

The motivation for using such dye is that it is stable to heat, light, humidity, and chemicals and has an excellent shelf-stability (col.5, line 66-col.6, line 3).

In light of the motivation for using specific type of dye disclosed by Ohyama et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such dye in the ink jet ink of either Tsutsumi et al. or Komatsu et al. in order to produce a storage stable ink with good resistance to heat, light, humidity, and chemicals, and thereby arrive at the claimed invention.

Response to Arguments

8. Applicants' arguments regarding JP 11131000 and Leoffler (U.S. 4,514,226) have been fully considered but they are moot in view of the discontinuation of the use of these references against the present claims.

9. Applicants' arguments filed 12/11/03 have been fully considered but, with the exception of arguments relating to JP 11131000 and Leoffler, they are not persuasive.

Specifically, applicants argue that there is no motivation to combine Tsutsumi et al. or Komatsu et al. with Ohyama et al. given that there is no disclosure or suggestion in either Tsutsumi et al. or Komatsu et al. of quinophthalone dye as presently claimed and given that the ink of either Tsutsumi et al. or Komatsu et al. is significantly different than the presently claimed ink.

While it is agreed that the ink of either Tsutsumi et al. or Komatsu et al. comprises ingredients not presently claimed, in light of the open language of the present claims, i.e. "comprising", there is nothing in the present claims to exclude the use of such ingredients. Tsutsumi et al. and Komatsu et al. each disclose ink jet ink comprising resin colored with dye as required in the present claims. However, it is agreed that there is no disclosure in either Tsutsumi et al. or Komatsu et al. of quinophthalone dye as presently claimed which is why Tsutsumi et al. and Komatsu et al. are each combined with Ohyama et al. which disclose quinophthalone dye identical to that presently claimed and provide motivation for using such dye.

Applicants argue that Ohyama et al. is not applicable against the present claims given that Ohyama et al. is drawn to colorants for liquid crystals not ink jet inks.

While it is agreed that there is no disclosure in Ohyama et al. that quinophthalone dye is used in ink jet inks, it is significant to note that in addition to use in liquid crystal materials, col.1, lines 7-8 and col.2, lines 45-50 of Ohyama et al. disclose that the quinophthalone compound is also used to color polymeric materials. This is especially relevant to the present invention which requires resin colored with quinophthalone as well as to either Tsutsumi et al. or Komatsu et al., with which Ohyama et al. is combined, which each are drawn to inks containing colored resin. It is further significant to note that Ohyama et al. disclose that the quinophthalone dye is suitable for coloring polymers including polystyrene and polymethyl methacrylate which are identical to the polymers colored by Komatsu et al. and to copolymers obtained from styrene and acrylamide which are the same monomers used to form the resins of Tsutsumi et al. Thus, it is the examiner's position that there is good motivation to combine either Tsutsumi et al. or Komatsu et al. with Ohyama et al.

While there is no disclosure of ink jet inks in Ohyama et al., it is noted that according to MPEP 2141.01 (a), a reference may be relied on as a basis for rejection of an applicants' invention if it is "reasonably pertinent to the particular problem with which the inventor is concerned." A reasonably pertinent reference is further described as one which "even though it maybe in a different field of endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." Ohyama et al. is, therefore, a reasonably pertinent reference, because it teaches coloring polymers with quinophthalone dye given that dye is stable to heat, light, humidity, and chemicals

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and has an excellent shelf-stability which is a function especially pertinent to the invention at hand where it is important that the ink have good storage stability as well as stability with respect to heat, light, etc.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
3/18/04